CLAIMS

What is Claimed is:

1. A method of designing a circuit for a device, said method comprising:

a) selecting a first module of a plurality of modules, said modules representing pre-determined functions operable to be implemented in resources in said device; and

b) placing said first module in a valid position in a graphical user interface, wherein said resources are represented in said graphical user interface and wherein said valid position depends upon the type of module being placed and characteristics of said resources.

2. The method of Claim 1, further comprising:

c) selecting a new valid position for said first module in said graphical user interface.

3. The method of Claim 1, further comprising:

c) selecting additional modules of said plurality; and

d) placing said additional modules in valid positions in said graphical user interface.

4. The method of Claim 3, further comprising:

e) configuring the interconnectivity between resource images in said graphical user interface, wherein said modules selected in c) are mapped to said resource images in said graphical user interface.

5. The method of Claim 1, further comprising:

c) selecting pin configurations for said first modules by:

c1) causing a window to be displayed, said window providing selections for configuring an input/output pin; and

c2) selecting a configuration provided in said window, wherein said input/output pin is configured.

6. The method of Claim 1, further comprising:

c) selecting a parameter for said first module by:

c1) causing a window to be displayed for said first module, said window providing selections for setting said parameters; and

c2) selecting a parameter from said window, wherein said parameter is selected for said first module.

7. The method of Claim 1, further comprising:

c) creating a source code program using an application program interface (API), wherein said API is for calling a routine to cause said module to perform a predetermined function.

8. The method of Claim 1, wherein said graphical user interface represents a plurality of digital and analog programmable system on a chip (PSoC) blocks, wherein said module maps to at least one of said PSoC blocks.

9. A method of designing a circuit, said method comprising:

a) selecting a first module of a plurality of modules;

b) placing said first module in a graphical user interface, wherein said graphical user interface represents resources available in which to implement said modules and said placement is an allowable position based on characteristics of said first module and characteristics of said resources;

c) repeating a) and b) to place additional modules of said plurality in said graphical user interface, wherein said circuit comprises said placed modules; and

d) selecting pin configurations for said circuit.

10. The method of Claim 9, further comprising:

e) selecting a new valid position for said first module in said graphical user interface, wherein said new valid position is an allowable position based on characteristics of said first module and characteristics of said resources.

11. The method of Claim 9, further comprising:

e) iterating through valid positions for said first module in said graphical user interface, wherein said valid positions are allowable positions based on characteristics of said first module and characteristics of said resources.

12. The method of Claim 9, wherein said first module comprises a plurality of classes and wherein said method further comprises:

e) selecting a new position for said module for a first class of said plurality while keeping the position for a second class of said plurality fixed.

13. The method of Claim 9, further comprising:

e) selecting parameters for said first module by:

e1) selecting a region of a resource image in which said first module is placed causing a window to be displayed, said window comprising selectable parameters for said first module, said modules selected in c) being mapped to said resource images in said graphical user interface; and

e2) selecting a parameter in said window.

14. The method of Claim 9, further comprising:

e) editing a source code program, said program causing said placed modules to perform predetermined functions when said circuit is operated.

15. The method of Claim 9, further comprising:

e) selecting global parameters, wherein said global parameters describe parameters related to global resources for said circuit.

16. A method of designing a circuit, said method comprising:

a) selecting a first module of a plurality of modules;

b) placing said first module in a graphical user interface, wherein said graphical user interface comprises a plurality of resource images representing resources available in which to implement said modules, and wherein and said placement is an allowable position based on characteristics of said first module and characteristics of said resources;

c) repeating a) and b) to place multiple modules in said graphical user interface, wherein said circuit comprises said placed modules; and

d) selecting parameters for at least one of said placed modules.

17. The method of Claim 16, further comprising:

e) selecting a new position for said first module in said graphical user interface by causing said first module to be moved from a first resource image in said graphical user interface to a second resource image in said graphical user interface.

18. The method of Claim 16, further comprising:

e) selecting pin configurations for said placed modules by:

e1) causing a window to be displayed by selecting a region of a graphical user interface representing a target device in which to implement said circuit, said window providing selections for configuring a pin; and

e2) selecting a pin configuration provided in said window, wherein said pin is configured; and

e3) repeating for additional pins.

19. The method of Claim 16, further comprising:

e) configuring the interconnectivity between resource images in said graphical user interface, wherein interconnections are made between said placed modules.

20. The method of Claim 16, further comprising:

e) creating a source code program using an application program interface (API), wherein said API is for calling a routine to cause said first module to perform a predetermined function.